# ENGL 281 A- Intermediate Expository Writing (Science Writing and Society)

***Course Syllabus***

## Important Info

**Instructor:**Norman  Wacker

**Class Meets**: Fully Online

**Zoom Office Hours**: Monday 9-10 a.m. and by appointment

**E-mail:**nwacker@uw.edu

## Objectives:

The primary objective of this course is to establish, even as we work together primarily online, an interactive classroom community to engage recent scientific research papers and science reporting that have important consequences for contemporary social issues, including global health, the nature of aggression and warfare, genetic engineering, climate change and advances in medical research. As we do so, we will practice--, whatever our majors and interests--the patterns of knowledge creation practiced in the natural sciences with particular emphasis on its, commitment to a systematic way of thinking, and allegiance to a way of building on existing knowledge and explaining the universe through testing and factual observation. We will also emphasize the critical role science writing and reporting play in the construction, spread and application of new knowledge.

We will work collaboratively in looking hard at recent science papers that have also been reported beyond the science community to a larger audience and have considerable consequences for public policy. We will also closely examine how Individual science papers contribute to new and flexible portfolios of knowledge and technical innovation, an open-ended process of knowledge use and knowledge making  central to research universities like ours and professional fields as various as medicine, resource management, information technology, finance, business and social and mass media. We will also practice the art of engaging the kind of specialized discussion that accompanies publication of science research, whether among scientists, policy makers and or to numerous and often deeply invested members of the general public.

## Overview:

Dating back to the times of Isaac Newton and Charles Darwin, observation and experimental research have been mobilized to identify the forces that produce the natural world, turning points that triggered both scientific and social revolutions.   Darwin’s *Origin of the Species,* important as it was to scientists, was written for a general audience that purchased the whole of the first printing within days of its release. The concept of evolution lead to a vision of time and life as defined by change and progress driven by highly selective processes of fitness, adaptation and competition that was introduced to  Darwin’s enormous readership with great consequences for both science and popular assumptions about the origins and nature of life. The resulting transformation of biology proper has been so pervasive that as late as 1973 the geneticist Theodosious Dobzhansky remarked, “Nothing in biology makes sense, except in the light of evolution.”

## Key Questions:

What are some of the processes and assumptions that inform scientific thinking and the results produced by them? How might they differ from other powerful agents of knowledge such as religious and cultural traditions, or influential works of literature and history?

Among the questions we will engage throughout the quarter as we work with science writing are:

1) How is scientific discovery undertaken and how is the science writing that reports them organized?

2) What do we learn as we read science papers about research, scientific reasoning, and experimentation?

3) What are the larger stakes of the results reported in these often quite specialized studies?

4) What debates and conversations accompanied publication of these papers?

5) How do these papers compare to science writing for a general audience?

6) What are some common assumptions about scientific writing and scientific knowledge?  7)How should we evaluate and revise those assumptions as we work closely with this kind of writing in during our class?

## Course Requirements and Grading:

**Class Participation – 20 %**

* Engaged preparation and active participation in each Canvas activity, including: Canvas HW assignments, sharing informal responses to the assigned reading for each class meeting, informal reading notes, crafting impromptu short stories of your own and bringing written *work-in-progress* for each of our three writing assignments (two short essays and a short story).

**Three Short Analytical papers and one Poster Project (each 20%)**

* All details about paper requirements are in Canvas site (APA formatting style, length, source citing)

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| **Course Component** | **% of Total Grade** |
| Major Essay 1 | 20% |
| Major Essay 2 | 20% |
| Major Essay 3 | 20% |
| Poster Project | 20% |
| Class Participation(aggregated hw and in-class activity) | 20% |

Our Canvas site is structured in modules. There will be 4 modules designed for each Major Essay and Poster. Our readings will be grouped in Reading module.

## Reading List / Module (Tentative)

“The Mistrust of Science” (Commencement address at CAL, 2016)

 “The natural history of antibiotics”

“Understanding and overcoming antibiotic resistance”

“What counters antibiotic resistance in nature?”

“Resource Competition May Lead to Effective Treatment of Antibiotic Resistant Infections”
“Contrasting Futures for Ocean and Society from Different Anthropogenic CO2 Emission Scenarios”

“Climate change threatens the world’s marine protected areas”

“Applications of CRISPR technologies in research and beyond”

“A CRISPR-Cas9 gene drive system targeting female reproduction in the malaria mosquito vector Anopheles gambiae”